

ABSTRACT OF THE DISCLOSURE

A lower substrate including a first electrode and an upper substrate including a second electrode are opposed to each other, and a space between the two substrates is partitioned by a partition wall into pixels. In the lower 5 substrate, a piezoelectric material is sandwiched between a third electrode and the first electrode, thereby forming a vibration-generating portion. In the space, negatively charged black particles and positively charged white particles are contained. In a display operation, a signal voltage corresponding to an image signal is applied between the first and second 10 electrodes, generating an electric field, whereby the black particles and the white particles travel between the electrodes and adhere to the respective electrode surfaces to perform the display operation. In rewriting the display, a high-frequency sine wave voltage is applied between the first electrode and the third electrode. Thereby, the piezoelectric material causes a 15 piezoelectric effect, and consequently the vibration-generating portion generates vibration. By transmitting this vibration to the black particles and the white particles, aggregated particles are dissociated and particles adhering to the electrode surfaces are detached therefrom, and these particles are dispersed in the space to erase the display. After erasing the 20 display, a signal voltage corresponding to an image signal is newly applied between the first electrode and the second electrode to perform a display operation.